

OPERATING INSTRUCTIONS

MX 67

DIGITAL TESTER (WITH BACK LIGHT)

SAFETY INFORMATION

The following safety information must be observed to insure maximum personal safety during the operation of this meter:

1. Do not use if the meter or test leads look damaged, or if you suspect that the meter is not operating properly.
2. This meter is not recommended for high voltage industrial use; for example, not for measurements of 440 VAC or 600 VAC industrial power mains. The unit is intended for use with low energy circuits to 600V AC/DC or high energy circuit to 250 VAC or DC.
3. Use caution when working above 60V dc or 30V ac rms. Such voltages pose a shock hazard.
4. When using the probes, keep your fingers behind the finger guards on the probes.
5. Measuring voltage which exceeds the limits of the meter may cause damage and expose the operator to a shock hazard. Always respect the voltage limits as stated on the meter.
6. If the equipment is used in a manner not specified by the manufacturer, the protection provided by the equipment may be impaired.
7. Fused test leads in accordance with H.S.E. guidance note GS38 should be used in high energy circuits.

SPECIFICATIONS

Display: 3½ digit liquid crystal display (LCD) with a maximum reading of 3200.

Analog bar graph: 32 segments with measurements 12 times per second.

Polarity: Automatic, (-) negative polarity indication.

Overrange: "OL" mark indication.

Low battery indication: The "E3" is displayed when the battery voltage drops below the operating level.

Auto power-down: After 10 mins, Back-Light after 30 secs approx.

Measurement rate: 2 times per second, nominal.

Operating environment: 0°C to 40°C at <70% relative humidity.

Storage environment: -20°C to 60°C at <80% relative humidity.

Safety: According to EN61010-1 protection class II overvoltage category (CAT II 600V) pollution degree 2.

Power: 4 pcs 1.5V (AAA size) UM-4 R03.

Battery life: 500 hours typical with alkaline.

Dimensions: 170mm (H) x 44mm (W) x 40mm (D).

Weight: 140g including batteries.

VOLTAGE (40 / 500Hz)	Range	DC Accuracy	AC Accuracy	Input impedance	Maximum input
	320mV	0.25%rdg+1dgt	No range	>1000MΩ	600VDC or ACrms
	3.2V		1.0%rdg+4dgt	11MΩ	
	32V			10MΩ	
	320V				
	600V				
OHM	Range	Resolution	Accuracy	Test Current	Input protection
	320Ω	0.1Ω	0.3%rdg+3dgt	< 0.7mA	500VDC or ACrms
	3.2KΩ	1Ω	0.3%rdg+1dgt	< 0.13mA	
	32KΩ	10Ω		< 13μA	
	320KΩ	100Ω	< 1.3μA		
	3.2MΩ	1KΩ	1.2%rdg+1dgt	< 0.13μA	
	32MΩ	10KΩ	3.0%rdg+1dgt		
DIODE Test	0-2.0	1mV	3.0%rdg+3dgt	0.8mA±0.6mA	500VDC or ACrms
CONTINUITY Check	Range	Resolution	Audible indication	Test Current	Input protection
	320Ω	0.1Ω	<20Ω±5Ω	<0.7mA	500VDC or ACrms

OPERATION

Before taking any measurements, read the Safety Information Section. Always examine the instrument for damage, contamination (excessive dirt, grease, etc.) and defects. Examine the test leads for cracked or frayed insulation. If any abnormal conditions exist do not attempt to make any measurements.

Autoranging

The meter defaults to autorange when you turn it on. In autorange, the meter selects the range automatically.

Manually Selecting a Range

The meter also has a manual range mode. In manual range, you select and lock the meter in a range. To manually select a range:

Press [RANGE] button to hold the selected range. The  symbol is displayed. Subsequently pressing the [RANGE] button will select each range in sequence from the lowest to highest range. Hold the button for 2 seconds to return to the Autorange Mode.

Mode Switch (, (, (

Press this switch to toggle between DC and AC in the voltage measurements. Press this switch to toggle between the W/continuity/diode modes, if the function switch is set to W  position.

Back-Light and Data-Hold Switch (>2sec), (

Press this button briefly to activate DATA-HOLD mode. The  annunciator is displayed.

Press this button for two seconds to turn the Back-Light on. As this also activates the DATA-HOLD mode, briefly press the button to return to normal display. To turn the Back-Light off press again for two seconds. The Back-Light will switch-off automatically after about 30 seconds.

Auto Power-Down Mode:

If unused for about 10 minutes, the tester will power-down automatically. Press any of the three button switches to resume power-on mode.

Voltage Measurements

1. Connect a red test probe to the "Vw" jack and the black test lead to the "COM" jack.
2. Set the Function switch to the desired voltage and press the mode switch to select DC or AC.
3. Touch the probes to the test points, the range will change automatically to the level that will display the input voltage with best resolution.
4. The value indicated in the display window is the measured value of voltage with proper decimal point and annunciator indication.
5. For dc, a (-) sign is displayed for negative polarity; positive polarity is implied.

Resistance Measurements

1. Set the Function switch to the "W" position.
2. Turn off power to the circuit under test. External voltage across the components causes invalid readings.
3. Connect a red test probe to the "Vw" jack and the black test lead to the "COM" jack.
4. Connect the test leads to the measurement points and read the value from the display.

Testing Diodes

1. Set the Function switch to W  position.
2. Turn off power to the circuit under test. External voltage across the components causes invalid readings.
3. To toggle between the W/continuity/diode modes, press Mode Switch.
4. Touch probes to the diode. A forward-voltage drop is about 0.6V (typical for a silicon diode).
5. Reverse probes. If the diode is good, "OL" is displayed. If the diode is shorted, a value near 0mV will be displayed.
6. If the diode is open, "OL" is displayed in both directions.

Continuity Measurements

1. Set the Function switch to W  position.
2. Turn off power to the circuit under test. External voltage across the components causes invalid readings.
3. To toggle between the W/continuity/diode modes, press Mode Switch.
4. Connect the test leads to the two points at which continuity is to be tested. The buzzer will sound if the resistance is less than approximately 20W±5W.

MAINTENANCE

WARNING

Remove test leads before changing batteries
or performing any servicing.

Battery Replacement

Power is supplied by four 1.5V (AAA size) batteries. The  appears on the LCD display when replacement is needed. To replace the batteries, remove the screw from the back of the meter and lift off the battery cover case. Remove the batteries from battery contacts.

Cleaning

Periodically wipe the case with a damp cloth and detergent, do not use abrasives or solvents.

METRIX ELECTRONICS LTD

Minchens Court, Michens Lane, Bramley
Tadley, Hampshire, RG26 5BH, U.K.
Tel: +44 (0)845 0343234 Fax: +44 (0)845 0343233
E-mail: sales@metrix-electronics.com